**Research Article Review Chart**

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| **Reference** | **Purpose** | **Research Questions** | **Participants** | **Methods** | **Data Analysis** | **Limitations/**  **Reliability/**  **Validity** | **Results/**  **Findings** | **Implications** |
| Insert the reference citation in APA format. | What was the purpose of the study? | What research questions were asked by the authors? | Who participated in the study (e.g., number of participants, age, grade level, race/ethnicity, gender)?  How were the participants selected/  recruited? | Was the study quantitative, qualitative, or mixed method?  If the study was quantitative, what were the independent and dependent variables?  What materials and instruments were used in the study? | How were the data analyzed (e.g., t-tests, correlations, coding strategies, or other data analysis techniques)? | What limitations were reported?  What evidence was reported for reliability and validity? | What results/  findings were reported? | What are the implications for instructional and learning practices?  What suggestions are made for future research? |
| Ann E Barron, Kate Kemker, Christine Harmes, & Kimberly Kalaydjian. (2003). Large-scale research study on technology in K-12 schools: Technology integration as it relates to the national technology standards. *Journal of Research on Technology in Education*, 35(4), 489-507.  Retrieved March 13, 2010, from Research Library. (Document ID: 351198851). | To determine the extent to which individual teachers in a large school district were using technology as a tool for their students’ education. | Is technology being implemented as a tool for research, communication, productivity, and problem solving and to what extent? | Large school district in Florida. #22 on the list of the largest 100 public elementary and secondary school districts serving 113,017 students    20% of the schools received the web-based survey. A matched sample of schools were chosen based on data from Florida Department of Education website. Match samples represented grade level, school size, % of students on free or reduced lunch, non-white population, and mobility. Incentives were given for completion of the survey. | Qualitative questions  Survey was used.  The survey consisted of 4 domains  1) Integration  2) Support  3) Preparation, confidence, comfort  4) attitude  Instrument was reviewed by experts in technology and measurement.  Pilot tested | Segmented into two categories of yes or no  Yes – implementing technology once per week  No –  Implementing technology less than once per week. | Only 35% of the participants responded.  Reliability using Cronbach’s alpha  .89 paper  .87 web based  5 point frequency  Limited to one school district.  Self-reporting | Elementary school teachers were more likely to use technology as a problem solving tool, communication tool. High school teachers were more likely to use technology as a tool for research and productivity.  Comparing subjects found that Science teachers were more likely to use technology as a tool in all categories higher than other content areas. | Elementary school teachers may find it easier to implement technology because of a greater flexibility of time. High school teachers should be encouraged to expand their use of technology.  A push is needed to encourage growth in the area of English and use of technology. |
| Sherman,G.,P. Klein. J. (1995). The effects of cued interaction and ability grouping during cooperative computer based science instruction. *Educational Technology Research and Development*, 43 (4), 5-24. Retrieved March 13, 2010, from JSTOR. | To investigate the effects of verbal interaction cues and ability grouping within a cooperative learning computer based program. | What are the effects of verbal interaction cues and ability grouping within cooperative learning computer based instruction science programs? | 231 middle school students. Middle class socioeconomic school in a metropolitan area.  Students were enrolled in a required eighth grade general science course. | Quantitative  Independent variable – presence of cues and ability groups.  Dependent measures – practice item performance, posttest, attitude toward partner and program, time spent.  Materials: A computer based instruction science program entitled *Designing Controlled Experiment* There are 2 versions of the program one with verbal cues and one without. | Time data was kept on the computer.  Attitude was measured using a survey with Likert scale.  Posttest data was gathered.  Interaction data was gathered by video. 9 behaviors were recorded while observing the videos  Direct observation. | Posttest reliability  KR-21 reliability was .87  Attitude survey Cronbach Alpha reliability .78 | Subjects using the cued versions preformed higher than those using the non-cued program.  The study also shows that students grouped in high ability groups out preformed those grouped in mixed ability groups and low groups. | Verbal cues imbedded into computer based instruction, when used in dyads increases student use of strategies such as summarizing. Students who summarize learning learn better.  Future research might include how to incorporate more collaborative group work in computer based instruction and how to add summarizing techniques through computer based instruction. |
| Rice, K. (2009). Priorities in K-12 Distance Education: A Delphi Study Examining Multiple Perspectives on Policy, Practice, and  Research. *Educational Technology & Society*, *12* (3), 163–177. | To obtain consensual and consistent data from a diverse group of stakeholders in distance education regarding priorities. | What are the priorities of the future in k-12 distance education research? | 86 potential participants identified through a search of state level technology administration websites, university websites, websites associated with virtual schools and programs. Ended up with 29 respondents from 12 states. | Used the Delphi Method. Three questions guided the collection and analysis of data.  The study is qualitative.  149 statements  9 subscales | Peer coding  Data analyzed using Kruskal-Wallis H Test | Reliability was not mentioned although using the Delphi Method addresses reliability issues. | Priorities for k-12 distance education were established.  1. Evaluation of course design and delivery — research on effective online course design and delivery, and  development of a comprehensive and effective method for evaluating that effectiveness.  2. Best practice — define and identify characteristics of effective pedagogical practices and technological  applications that lead to achievement gains.  3. Accountability — hold virtual schools to the same accountability requirements as brick-and-mortar schools.  4. Access — increase access to distance education programs for all students by removing state-level barriers to the  establishment and operation of virtual public schools, developing programs to better assist special needs  students, and implementing statewide open enrollment policies.  5. Online learning/learners — educate the public about the function and purpose of distance education while  increasing awareness of the potential advantages and disadvantages distance learning opportunities may present  to learners.  6. Professional development — ensure that online instructors have the proper training to be effective teachers in  the online environment, perhaps in the form of a credential or certificate.  7. Accreditation/standards — align online courses and curriculum to states’ academic standards and offer an  accredited program.  8. Funding — ensure that effective teaching and learning is taking place by providing financial resources for the  extensive training of teachers and administrators of online K–12 schools or programs.  9. Technology — improve high-speed access to allow more engaging online learning while examining those tools  and processes that make teachers more successful, efficient, and productive. | Previous research has been focused on comparing face to face learning with distance learning. Although the data seems to indicate distance learning is equal or better to face to face more applicable research could be on student outcomes. |
| O'Dwyer, L., Carey, R., & Kleiman, G. (2007). A Study of the Effectiveness of the Louisiana Algebra I Online Course. *Journal of Research on Technology in Education*, *39*(3), 289-306. Retrieved from Academic Search Complete database. | To determine how student outcomes compare in online courses with traditional face to face courses. | Do students who participate in online learning initiatives perform as well as students in traditional face to face courses? Are peer to peer interactions different? | 6 district schools in Louisiana  4 schools rural, 2 fringe of urban. 257 students chosen by school district administrator. Administrators were asked to pick students who have the ability to work independently. Comparison classes were chosen by the school district administration as well. | Quasi – experimental data.  Somewhat quantitative data.  Independent variable – Algebra I taught online.  Students were taught the same content. | Pretest  Posttest  Survey  Observations by trained observers. | Pretest – Cronbachs Alpha reliability .70  Posttest – Cronbachs Alpha reliability .81 | The pretest and posttest showed no significant difference in score.  Students in the traditional face to face class expressed a greater confidence in the content while students in the online course expressed greater confidence in their ability to use technology. | The peer to peer interaction and immediate feedback is hugely important in the overall satisfaction of the course. Strategies to create “social presence” need to be a priority in any given online course. |
| Roblyer, M., & Marshall, J. (2002). Predicting Success of Virtual High School Students: Preliminary Results from an Educational Success Prediction Instrument. *Journal of Research on Technology in Education*, *35*(2), 241. Retrieved from Academic Search Complete database. | To develop an education success prediction instrument to be used by school counselors and virtual school developers. | 1. Can this instrument discriminate reliably between successful and unsuccessful students in Virtual High School courses?  2. Do any factors or student characteristics that can be changed through counseling correlate with student success in online courses?  3. Can findings from this instrument yield a model for predicting success of high school students in distance environments? | Participants in the Concord Virtual School Consortium were invited to participate. 86% of students responded. Most were 16 – 17 years of age. Half were male and half were female. 70% identified themselves as white. | A mix of quantitative and Qualitative data  Likert Scale survey.  The survey was reviewed by high school personnel and educational psychology faculty. The survey was revised based upon the feedback.  Survey was administered to the first 2 classes on paper and then put on WebCt.  Postcourse scores and Precourse scores were used for qualitative data.  Independent variable was the ESPI  Postcourse grade was the dependent variable. | Statistical Package for Social Sciences was used to analyze the data.  Sample t-tests were used to compare groups. | Cronbach’s alpha reliability was .92  Small sample but crossed the country. | The ESPI predicted those who would succeed with 100% success and those who would fail with 95% success. | Because the dropout rate is higher when students are not successful, predicting the success of a student taking an online course is important to guide that student with the correct route for education. |
| Chaney, E., (2001, November). Web-based instruction in a rural high school: A collaborative inquiry into its effectiveness and desirability. *National Association of Secondary School Principals NAASSP Bulletin*, 85(628), 20-35. Retrieved March 13, 2010, from Research Library (Document ID:88506455) | To determine the effectiveness of web-based instruction in rural high schools. | Is web-based instruction effective in a rural high school? | 36 students at South Vermillion High School in Indiana. | Qualitative  Likert Scale survey | Survey was administrered to the students participating in web-based instruction. Very small percentage of respondents. | Nothing was mentioned about the reliability. | The study found that the learning curve related to technology and the availability of technology hindered the process. It can be inferred that the students had a less than pleasing attitude going into the study and viewed the study as extra work. Only 14 of the 36 students responded at all. | The one thing learned from the study is that schools should start slow. Introduce technology enhanced learning in small portions to begin with especially at the higher levels. |
| Archambault, L., & Crippen, K. (2009). K--12 Distance Educators at Work: Who's Teaching Online Across the United States. *Journal of Research on Technology in Education*, *41*(4), 363-391. Retrieved from Academic Search Complete database. | A study to investigate the teachers who are teaching online. The challenges and conditions that they face, success and pitfalls. | What are the advantages and disadvantages of teaching online? | Teachers from across the nation were surveyed in regard to demographic, age, race, gender, ethnicity, educational background, years of teaching, and how they got into online teaching. Focused on schools sanctioned by states. | Captured qualitative data by asking open-ended survey questions.  Quantitative date was gathered as well.  Variables:  Education level  # of yrs teaching  Age  Gender  ethnicity | Criterion sampling.    Dillman’s Tailored design survey | A reliability percentage was not given. However, the survey was a Dillman’s Tailored design survey and the process for sampling was a non-random purposeful sampling. | Online teachers are predominately female between the ages 26-35. 91% of the sampled were white. Compared to traditional teachers the percentage of online teachers with higher degrees is larger. The open-ended questions suggest that teachers in online classes have a desire to pursue learning. 36% were teaching part time with a large portion of those retired. | Further areas for research would include:  Do online teachers need to have classroom teaching experience to be successful in the online environment?  What training is needed for online teaching?  How should content be handled?  How many students can an online teacher handle successfully? |
| Roblyer. M.,D. (1999). Is choice important in distance learning? A study of student motives for taking internet-based courses at the high school and community college levels. *Journal of Research on Computing in Education*, 32(1), 157.  Retrieved March 14, 2010, from Research Library. (Document ID: 45460039 | To explore the motives of students choosing distance learning and if choice matters. | Why do students choose distance learning over face to face learning?  Do personal characteristic or demographical characteristic predict choice? | State funded virtual high school students and distance learning community college students.  Sites were chosen that would have the instructor teaching online and traditional classes. | Qualitative & Quantitative  Survey  Likert-Scale  Only students who completed the course responded to the survey and interview questions  Quantitative data was decided on by a review committee.  Variables – logistical factors (drive time, distance)  Control factors (flexibility in the course design)  Personal interaction factors (the need for interaction with instructor and students)  Technology perspectives (attitude about prior technology experiences) | Survey & interview questions.  Paired samples t-test was used at the high school level since no control group was available. In the community college group a control group was available. | Construct validity for the Likert scale was established through several procedures.   1. Literature review 2. Investigator development of constructed list. 3. Review committee 4. Investigator developed questions to determine the constructs. 5. Final review by committee.   The difference between distance learners and non-distance learners had a standard deviation of .72 for the variable of control while 1.12 for the variable of interaction. | Distance learners sighted control over pace as the most significant reason for choosing distance learning. Non distance learners chose personal interaction as most important. | As more schools begin to use distance learning it is important to remember that student choice is still important.  Further research could investigate learning styles and student attitudes and how they affect students choice in courses and delivery models.  Another area of interest would be learner characteristics and counseling to guide the learner into course delivery model best suited for the learning style. |
| Reeves, T. & Wang, S. (2006). The effect of a web-based learning environment on student motivation in a high school earth science course. *Educational Technology Research and Development*. 54(6). 597-621. | Examine the effects of a web-based learning environment on the motivation level of 10 grade students. | .Can a web based learning environment enhance and sustain intrinsic student motivation? | 10th grade Science classroom | The materials used were a collaboratively developed web-based learning environment on fossilization. An online encyclopedia. A high school textbook was used to help design the lesson. Video was also used.  Survey form  Student interviews  Classroom observation  Researchers identified variables according to Newmann’s level of engagement. | Design experiment.  Newmann’s level of engagement.  Coding system  Miles and Humbermanns analysis model used. | Reliability based on triangulation of evidence collection.  2 observers obtained observations for reliability. | Students were more engaged and motivated in all categories when using the web-based learning environment. | Web based learning environments can engage previously unmotivated students.  How do web based learning environments compare with webquests?  Will student be more unmotivated in other classes after being exposed to web based learning environments?  Will this lesson stimulate learning outside of class?  Do any novelty effects wear off? |
| Sadik, A. (2008). Digital storytelling: a meaningful technology-integrated approach for engaged student learning. *Educational Technology Research & Development*, *56*(4), 487-506. doi:10.1007/s11423-008-9091-8. | To assist Egyptian teachers in developing teaching and learning through the application of a particular digital application. | Will using a digital application increase student understanding of content?  To what extent?  How effective is digital storytelling for new teaching integration?  What are teachers concerns? | 2 general education schools in Qena. Teachers who had been trained in their teacher education to use technology in the classroom were also picked.  8 teachers with implemented in 1 class each. | Qualitative and Quantitative data collected.  Student product scoring rubric  Rubric reviewed by an expert panel of 5.  Pre-observation  Timed observation  Post-conference  Variables – teacher – student interaction.  The nature of the student work. | Unknown | Multiple methods of data collection were used to enhance validity.  A team of university professors were gathered to rate student digital stories to check validity.  Rates were between 0.01 and 0.05. | Student interest went up and the implementation of the technology did help the student understand the content. | What are the obstacles that prevent teacher reflection of digital application integration?  What professional development could be implemented that would help teachers continuously align technology and teaching. |
| Karchmer, R. A (2001). The journey ahead: thirteen teachers report how the internet influences literacy and literacy instruction in their k-12 classrooms. *Reading Research Quality*. 36 (4), 442-466. | Explore how 13 k-12 teachers viewed technology and literacy and literacy instruction. | What is the perspective of teachers using technology to instruct literacy? | 13 criteria rated teachers who had been nominated and selected based on many qualifying factors. | Qualitative data  Self reporting data such as journals and reflections. Interviews.  Used email and synchronous methods such as chat rooms. | Constant-comparative methodology  Broke data into themes and implemented a number checking analysis. | For validity the investigator checked back with the individual teachers to check and see if they agreed with the data. | The 13 teachers investigated found that the reading material and writing programs were important for literacy instruction but emphasized student internet safety as an overwhelming important emphasis. The teachers reported that finding grade level text was a challenge. | Positive responses were discovered in student response to publishing work. More research should be conducted on publishing student work and safe ways to publish and share student work. |
| Frid, S. (2001). Supporting primary students’ online learning in a virtual enrichment program. *Research in Education* 66(9). 9-27. | To investigate the way that students engage in mathematical thinking. | What factors in *Number Extravaganza* influence student learning? | Students enrolled *in A Number Extravaganza* grades 2-6.  28 students | Qualitative data  Email correspondence  Student written work  Student enrollment data | Examination of emergent themes and factors. | Data analysis proceeded inductively. | The following items were found to affect student engagement  Communication structures, support of an adult, interaction with other students. | Students who communicate through email and other written expressions in an asynchronous environment learn to give stronger details. |
| Sipple.,J. (1999). Institutional Constraints on business involvement in k-12 education policy. *American Educational Research Journal*. 36(3). 4447-488. | To better understand movements in contemporary educational policies, the agents promoting reform ideas, and how they interact with state government. | Who will shape the future of education and how with the do it? | Michigan round table made up of multi-national corporate CEO’s which had adopted the state of Michigan for change. | Qualitative data from documents and interviews. Participant observation.  Over 7 years. | Case study  Eva.  Intrinsic and Instrumental (Stake’s)  Coded transcripts | Triangulation used and expert advice sought after.  Final checks | The National Round Table provided leadership to expand business involvement in education beyond independent, locally based, and often short-term programs toward more broad based long term involvement in local, state, and National levels.  Members found the work confusing and did not accomplish as much as quick as they originally planned. | The round table did affect the curriculum and policies of the Michigan school. Most impact of business is at the state level.  Study confirms and advances the relevant theoretical theory.  Provides insight into policy making. |
| Hawkins, A., & Barbour, M.. (2010). U.S. Virtual School Trial Period and Course Completion Policy Study. *The American Journal of Distance Education,* 24(1), 5.  Retrieved March 17, 2010, from ProQuest Education Journals. (Document ID: 1970535771). | To examine the variability in trial period and course completion policies in US Virtual schools. | What are the trial period policies for US virtual schools?  How do US virtual schools define course completion? | 159 US Virtual Schools of which 86 responded. | mixed  Survey via email, fax and telephone  Trial periods measured in days.  Qualitative data was collected for course completion.  quantitative  coding on data over the two themes. | Data were examined using basic descriptive statistics, one-way  ANOVAs, Fisher’s exact probability test, and theme analysis. We used an  alpha level of .05 for all statistical tests | Data analysis would suggest reliability. However, reliability is not mentioned in the study. | 68.6% of virtual schools have a trial period with the average being 14 days but varying from 1 to 185 days.  The study found that virtual schools varied greatly in the definition of course completion. | Policy makers, parents, students, and researchers have a difficult time determining and comparing schools because the metrics are not common.  Having common definitions and standards or criteria for trial periods and course completion would allow for more accurate comparison.  For further study – What should the definition of course completion be and how does it relate to trial period? |
| Gamboa, M. & Guzzetti, B. (2005). Online Journaling:the informal writings of two adolescent girls. *Research in the Teaching of English* 40(2). 168-206. | To explore how and why adolescents choose to read and compose writing online and how it affects literacy. | What is the new literacy of online journaling?  How do the case study students use online journaling to form and represent their identities?  What are the engaging aspects of online journaling and how can it affect classroom instruction? | Two teenage girls in Advanced placement high school English classes. | Qualitative  Case study  Semi-structured interview and observations. | Purposive sampling.  Inductive methods of constant comparison.  Annotations to create codes and subcodes. | Triangulated data  (although it was mentioned that the sampling size is very small and the case study is not representative of the age population.)  Cross checked themes. | Found that students use online journaling for multiple reasons. One of the students was an avid poster, posting multiple times each day.  The other case study participant did not post as often but rather about ½ of the days each month.  The journaling did increase writing ability and created a social presence online. | Further study is needed on the availability of safe online journaling. Case study participants agreed that online journaling needs to remain a choice not mandatory.  Feedback and immediate response to writing was an important feature and observation in the study. Feedback for online work could be another area of research. |